

What is claimed is:

1. A tape printing apparatus for printing a print image by each dot line onto a tape by driving a plurality of heating elements of a print head while moving the tape in a longitudinal direction thereof relative to the print head, the heating elements being aligned corresponding to the dot lines of the print image where dots are arrayed in a width direction of the tape, the tape printing apparatus comprising:

line inspecting means for inspecting blank lines and a number of consecutive blank lines in the print image made up of a mixture of print lines which are the dot lines including the dots to be printed and blank lines which are the dot lines including no dots to be printed; and

applied energy adjusting means for adjusting energy applied to the print head in printing a print line which follows the consecutive blank lines, the adjusting being made based on the number of the consecutive blank lines.

2. The tape printing apparatus according to claim 1, further comprising:

dot line reading means for reading out the print image by each dot line while printing,

wherein the line inspecting means includes:

line determining means for determining whether the read-out dot line is the blank line or the print line; and

means for detecting the number of consecutive blank lines up to a point when the read-out dot line is determined to be the blank line,

wherein the applied energy adjusting means adjusts

the applied energy based on the number of the consecutive blank lines that are detected at a point of time when the read-out dot line is determined to be the print line.

3. The tape printing apparatus according to claim 2, wherein the applied energy adjusting means increases a value of the applied energy when the number of the consecutive blank lines is above a previously set number of the blank lines.

4. The tape printing apparatus according to claim 3, wherein the applied energy adjusting means has means for initializing the number of consecutive blank lines at a time of starting the printing of the print image, into a value above the set number of the blank lines or a value close thereto.

5. The tape printing apparatus according to claim 3,

wherein the line inspecting means further includes means for detecting the number of the consecutive print lines up to the read-out print line when the read-out dot line is determined to be the print line and when the number of the consecutive blank lines detected up to that point of time is above the set number of the blank lines, and

wherein the applied energy adjusting means resets the value of the increased applied energy at a stage where the number of the consecutive print lines reaches a previously set number of the print lines.

6. The tape printing apparatus according to claim 1, wherein adjustment of the applied energy is carried out by adjusting at least one of a pulse width of a strobe pulse, an applied voltage and a limiting value of an applied current, which are applied to the print head.

7. The tape printing apparatus according to claim 1, wherein the adjustment of the applied energy is carried out by multiplying a value serving as a reference by a predetermined coefficient.

8. A method of controlling printing by a tape printing apparatus for printing a print image by each dot line onto a tape by driving a plurality of heating elements of a print head while moving the tape in a longitudinal direction thereof relative to the print head, the heating elements being aligned corresponding to the dot lines of the print image where dots are arrayed in a width direction of the tape, the method comprising the steps of:

inspecting blank lines and a number of consecutive blank lines in the print image made up of a mixture of print lines which are the dot lines including the dots to be printed and blank lines which are the dot lines including no dots to be printed; and

adjusting energy applied to the print head in printing a print line which follows the consecutive blank lines, the adjusting being made based on the number of the consecutive blank lines.

9. A tape printing apparatus for printing a print image by each dot line onto a tape by driving a

plurality of heating elements of a print head, the heating elements being aligned corresponding to the dot lines of the print image where dots are arrayed in a width direction of the tape, while moving the tape in a longitudinal direction thereof relative to the print head, the tape printing apparatus comprising:

dot line analyzing means for analyzing each of the dot lines of the print image made up of a mixture of print lines which are the dot lines including the dots to be printed and blank lines which are the dot lines including no dots to be printed, whereby each of the dot lines is analyzed to be the print line or the blank line, thereby obtaining a line analysis result;

means for detecting, based on the line analysis result, a duration of the consecutive blank lines when printing is not consecutively performed while the tape is moved, due to the consecutive blank lines on the tape in a longitudinal direction thereof;

applied energy adjusting means for adjusting the energy applied to the print head in printing each of the print lines, based on the duration of the consecutive blank lines and the number of the consecutive print lines from the line analysis result.

10. The tape printing apparatus according to claim 9, wherein the applied energy adjusting means has applied energy increasing means for increasing the value of the applied energy when printing the print line after the duration of the consecutive blank lines reaches a value above a set duration of the consecutive blank lines.

11. The tape printing apparatus according to claim 10, wherein the means for detecting the duration of consecutive blank lines has means for initializing an initial value of the duration of the consecutive blank lines to a value above a predetermined value, when the printing of the print image is started.

12. The tape printing apparatus according to claim 10, wherein the applied energy adjusting means has applied energy reset means which resets the value of the increased applied energy to an original value in case where more than the set duration time of the blank lines is elapsed and in case the print line is printed after more than the set number of the consecutive print lines lasted.

13. The tape printing apparatus according to claim 9, wherein adjustment of the applied energy is carried out by adjusting a strobe width of a strobe pulse which is applied to the print head.

14. The tape printing apparatus according to claim 9, wherein the adjustment of the applied energy is carried out by adjusting a voltage that is applied to the print head.

15. The tape printing apparatus according to claim 9, wherein the adjustment of the applied energy is carried out by adjusting a limit value of a current applied to the print head.

16. The tape printing apparatus according to claim 9, wherein the adjustment of the applied energy is carried

out by multiplying a value serving as a reference by a predetermined coefficient.

17. A method of controlling printing by a tape printing apparatus for printing a print image by each dot line onto a tape by driving a plurality of heating elements of a print head while moving the tape in a longitudinal direction thereof relative to the print head, the heating elements being aligned corresponding to the dot lines of the print image where dots are arrayed in a width direction of the tape, the method comprising the steps of:

analyzing each of the dot lines of the print image made up of a mixture of print lines which are the dot lines including the dots to be printed and blank lines which are the dot lines including no dots to be printed, whereby each of the dot lines is analyzed to be the print line or the blank line, thereby obtaining a line analysis result;

detecting a duration of consecutive blank lines based on the line analysis result when printing is not continuously performed, while the tape is moved, due to the consecutive blank lines on the tape in a longitudinal direction thereof; and

adjusting energy to be applied to the print head in printing a print line, based on the duration of the consecutive blank lines and the number of the consecutive print lines according to the line analysis result.

18. A program for performing a function of each of the means of the tape printing apparatus according to claim 1 or 9, said program being arranged to be

capable of being implemented by a programmable tape printing apparatus.

19. A program for performing the method of controlling printing by the tape printing apparatus according to claim 1 or 9, said program being arranged to be capable of being implemented by a programmable tape printing apparatus.

20. A storage medium having stored therein a program for performing a function of each of the means of the tape printing apparatus according to claim 1 or 9, said program being arranged to be capable of being implemented by a programmable tape printing apparatus.

21. A storage medium having stored therein a program for performing a function of each of the means of the tape printing apparatus according to claim 8 or 17, said program being arranged to be capable of being implemented by a programmable tape printing apparatus.